(12) UK Patent Application (19) GB (11) 2 344 020 (13) A

(43) Date of A Publication 24.05.2000

(21) Application No 9927239.5

(22) Date of Filing 18.11.1999

(30) Priority Data
(31) 9825172 (32) 18.11.1998 (33) GB

(51) INT CL[7]
H04M 3/487

(52) UK CL (Edition R)
H4K KF42

(56) Documents Cited
EP 0827321 A EP 0713317 A

(58) Field of Search
UK CL (Edition R) H4K KF42
INT CL[7] H04M 3/487
ONLINE : EPODOC

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(54) Abstract Title
Advertising , passing on information on a telephone

(57) The invention relates to improvements to telephone systems and, in particular, to a method and apparatus for enabling effective advertising or the passing on of supplementary information using the telephone system. The apparatus comprises caller equipment 1, recipient equipment 2 and exchange equipment 3 of a conventional nature and add-on equipment 4. The add on equipment 4 is triggered by an originating caller 1 dialling a number corresponding to the telephone number of the recipient caller equipment 2. When a call is detected from equipment 1 to equipment 2, the add on equipment 4 is arranged to transmit a message to the originating caller prior to the ringing tone. The recipient, when answering the telephone call using the recipient telephone apparatus 2 will also initially hear the message from add on equipment 4. In this manner, messages of an informative and/or advertising nature may be passed using a telephone network.

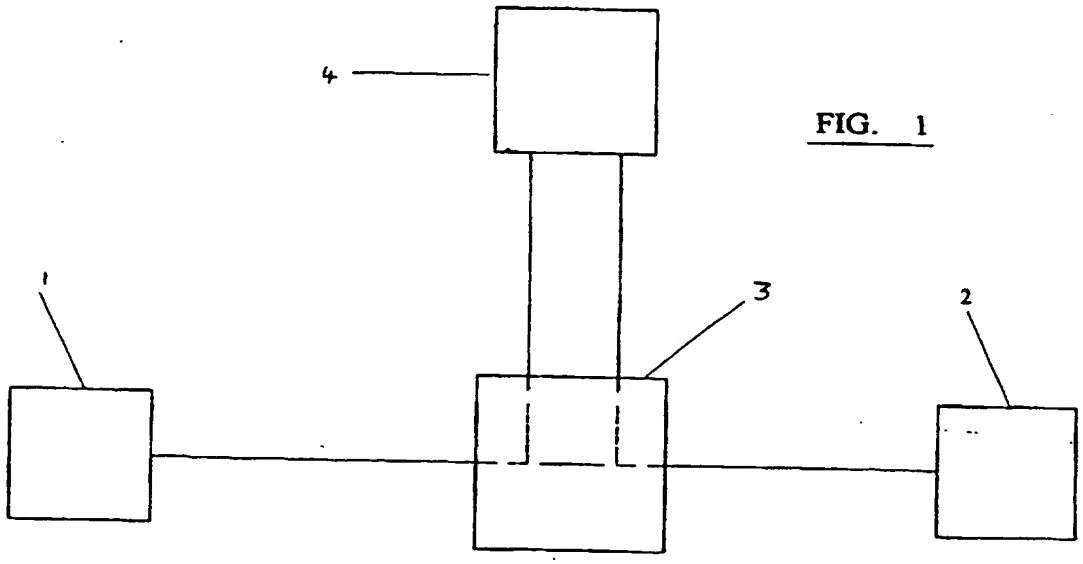

FIG. 1

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IMPROVEMENTS IN OR RELATING TO TELEPHONE CALL MONITORING SYSTEMS

This invention relates to telephone apparatus and more especially it relates to telephone apparatus including a call monitor or voice recorder.

The present invention is concerned more especially although not exclusively with telephone apparatus used in conjunction with telephone dealing services of the kind utilised in the stock markets, in the money markets or in the commodity markets for example.

Telephone apparatus for stock market dealer services or the like normally include a voice recorder so that telephoned instructions can be replayed for checking purposes in the case of a discrepancy between, an action expected by a client/customer following telephoned instructions and an action actually taken on behalf of the client by a dealer. In order to check telephoned instructions relating to a specific deal, it is frequently necessary with known systems to search for prolonged periods before the correct recording is identified. This is because full details of the recorded telephone conversation can seldom be remembered by those concerned, especially when the discrepancy is noticed several days after the telephoned instructions were received.

It is an object of the present invention to provide telephone apparatus including a voice recorder wherein retrieval/playback of specified recorded material is facilitated.

According to the present invention telephone apparatus comprises telephone line switch means via which predetermined telephone lines are made available to a telephone user board, which

user board serves to facilitate selection of one or more of the said predetermined lines by a telephone user, and an activity port operatively associated with the switch means via which data appertaining to telephone line usage is made available, a call management system comprising a display/monitor unit, a keyboard and a central processor unit (CPU), the CPU being coupled to the said activity port so as to receive and store the data appertaining to telephone line usage and a voice recorder for recording telephone conversations carried by the said predetermined lines, the voice recorder being operated under the control of signals produced by the CPU for the purpose of selectively retrieving predetermined recorded telephone conversations as identified by the data stored in the CPU.

The CPU may be arranged to store certain specific data in respect of each telephone call carried by the telephone lines, the said specific data being indicative of call duration, call start/finish time, and line identification, and being utilised by the CPU to provide for the selective display of such stored specific data on the display/monitor unit, whereby the said selective retrieval of the predetermined recorded telephone conversation is facilitated.

In accordance with one aspect of the invention data appertaining to the use of a handset operatively associated with the user board may be used by the CPU to supplement the data received from the activity port whereby identification of the location address within the voice recorder of a specified telephone conversation is more precisely defined.

One embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:

FIGURE 1 is a block schematic diagram of a telephone system including a voice recorder; and,

FIGURE 2 is a software process diagram of the processes required to interface a call logger to a voice recorder.

Turning now to Figure 1, a telephone system comprises a switch 1 which is arranged to route selected lines 2 to a dealer board 3 from a plurality of lines 4 available at an input side 5 of the switch 1.

It will be appreciated that the switch 1 may be a PABX (private automatic branch exchange) or a dealing board communication system.

Operation of the switch 1 is monitored by a telephone call management system 6 comprising a display monitor 6a, a central processor unit (CPU) 6b and a keyboard 6c.

Data appertaining to operation of the switch 1 is made available at an activity port 7 which is well known to those skilled in the art, and which is often described as a V24 port.

Data from the activity port 7 is fed via a line 8 to the call management system 6 wherein it is stored in a store (not shown) which forms a part of the CPU 6b.

Telephone activity on the lines 2 as selected by a dealer in charge of the dealer board 3 is monitored by a voice recorder 9 which is coupled to the dealer board 3 via lines 10.

The dealer board 3 is operatively associated with a telephone handset 3a and data appertaining to handset usage is fed via the voice recorder 9 to the call management system 6 via a line 11. Thus each telephone call made is not only recorded on the voice recorder 9 but corresponding data which identifies the call and its

location/address is stored in the CPU 6b of the call management system 6.

Data which identifies each call address is fed as just before described to the CPU over the lines 8 and 11.

In the case of a discrepancy between confirmation instructions and an originating docket relating to a particular deal which was originally initiated in response to a telephone order, it is necessary to search voice recorder records as produced by the voice recorder 9 in order to identify and play back the telephone conversation of interest.

With an arrangement as just before described, this operation is facilitated since details which may help to identify a call address can be displayed on the display monitor 6a so as to aid identification of the telephone call of interest, and having identified a likely telephone recording replay instructions can be then be transmitted via the line 11 from the CPU to the voice recorder 9 whereby the likely telephone conversation corresponding to the call of interest which is recorded at a specified address within the voice recorder, can be replayed.

In a practical situation if when searching for a recording a dealer line can be identified, the approximate time of the telephone conversation can be identified, the approximated call duration can be identified and perhaps a client code can be identified, the CPU can be used to display and/or search on the basis of this information in order to identify the most likely address for storage of the call within the voice recorder 9. A playback command can then be transmitted over the line 11 to effect playback so that the telephone conversation stored at the likely address location can be checked.

Referring now to Figure 2, the software process will now be described.

Screen Initialisation 12 -

This process initialises the screen and lists the available calls for the user to select. Using a proprietary filter process, the user can reduce the list to a more manageable size. The calls are retrieved from the call-logger's calls database 18 located in the call management system, using proprietary methods.

System Monitor 13 -

This process monitors events originating from the user via the keyboard, from the voice-recorders 9 via a port, and from other modules. When an event occurs, the process decodes the event and either receives a message from another module or sends a message to another module.

In the case of a voice-recorder event, the process passes a Check-status message to the update recorder status module 14. This message can either be a result of the voice-recorder sending data, a timer, or a user action.

In the case of a user event, there can either be a direct voice-recorder command or a call location command. In the case of the former, the process passes a voice-recorder Command message to the recorder command process module 17. In the case of the latter, the process passes a Call message to the call details retrieval module 15.

A process message can be received from two modules. It can either be a Success message from the recorder command process module 17 or a Status message from the update recorder status module 14. Some voice-recorders do not provide a facility to

determine the transport status of the voice-recorder which would normally be supplied in the Status message, in these cases the Success message is used to approximate the transport status.

Update Recorder Status 14 -

When this process receives a Check-status message, it reads status information from the voice-recorder and sends it to the system monitor as a Status message.

Call Details Retrieval 15 -

When this module receives a Call message, it uses the limited call information in the message to retrieve the required information from the call-logger's call database 18 using a proprietary method. It then passes this information, including logging site, logged line, and logged date and time, to the recorder details retrieval module 15 as a Call-details message.

Recorder Details Retrieval 16 -

This module receives a Call-details message and uses it to determine the voice-recorder details. This is done by interrogating the call-logger's recorder database 18 which contains relationships between logging site and logged line and the voice-recorder identity, port identity, and recording channel number. The recorder's details are bundled up with the logged data and time and sent as a Recorder-details message to the recorder command process module 17.

Recorder Command Process 17 -

This process can receive two message types, either a Command or a Recorder-details message. In the case of a Command message, the process passes it directly to the currently selected voice-recorder. In the case of a Recorder-details message the process selects the

voice-recorder specified in the message, selects the channel specified in the message, then sends a search command with the logged date and time specified in the message. In either case, a Success message is sent to the system monitor 13 with a success or fail value.

Recorder Database 19 -

This database is contained within the call management system and contains relationships between call details - logging site, logged line (Trunk, Extension, Operator) and recorder details, port identity, voice-recorder identity, and recording channel number.

It will be appreciated that by utilizing a system as just before described, significant time savings may be effected when retrieving and playing back telephone call instructions especially when the instructions were originally recorded many days earlier.

CLAIMS:

1. Telephone apparatus comprising telephone line switch means via which predetermined telephone lines are made available to a telephone user board, which user board serves to facilitate selection of one or more of the said predetermined lines by a telephone user, and an activity port operatively associated with the switch means via which data appertaining to telephone line usage is made available, a call management system comprising a display/monitor unit, a keyboard and a central processor unit (CPU), the CPU being coupled to the said activity port so as to receive and store the data appertaining to telephone line usage and a voice recorder for recording telephone conversations carried by the said predetermined lines, the voice recorder being operated under the control of signals produced by the CPU for the purpose of selectively retrieving predetermined recorded telephone conversations as identified by the data stored in the CPU.

2. Apparatus as claimed in claim 1 wherein the CPU is arranged to store certain specific data in respect of each telephone call carried by the telephone lines, the said specific data being indicative of call duration, call start/finish time, and line identification, and being utilised by the CPU to provide for the selective display of such stored specific data on the display/monitor unit, whereby the said selective retrieval of the predetermined recorded telephone conversation is facilitated.

3. Apparatus as claimed in claim 1 or claim 2 wherein data appertaining to the use of a handset operatively associated with the user board may be used by the CPU to supplement the data received from the activity port whereby identification of the location address within the voice recorder of a specified telephone conversation is more precisely defined.

4. Apparatus as claimed in claim 1 and substantially as hereinbefore described with reference to the accompanying drawings.

Patents Act 1977
Examiner's report to the Comptroller under Section 17 (The Search Report)

Application number

9214574.7

Relevant Technical fields

(i) UK Cl (Edition K) H4K: KFD; KFH; KFM; KOT; KQG

(ii) Int Cl (Edition 5) H04M

Search Examiner

ALAN STRAYTON

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

24 AUGUST 1992

Documents considered relevant following a search in respect of claims ALL

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	NONE	

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

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Published 1993 at The Patent Office, Concept House, Cardiff Road, Newport, Gwent NP9 1RH. Further copies may be obtained from Sales Branch, Unit 6, Nine Mile Point, Cwmfelinfach, Cross Keys, Newport, NP1 7HZ. Printed by Multiplex techniques ltd, St Mary Cray, Kent.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte il Application No
PCT/GB 01/00129

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